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Department of Botany,
University of California, Berkeley,
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REVIEWS

Ceanothus. Part I. Ceanothus for Gardens, Parks and Roadsides, by MAUNSELL VAN RENSSLAER. *Part II. A Systematic Study of Ceanothus*, by HOWARD E. McMINN. Pp. xii + 308. A Publication of the Santa Barbara Botanic Garden, Santa Barbara, California. Gillick Press, Berkeley, California. 1942. \$2.50.

If there is anyone who admits the place of decorative plants in the general scheme of things but thinks that botanists—above all taxonomists and their tools, herbaria and botanical gardens—have little or “nothing to do with the case,” may he be given a copy of “*Ceanothus*”!

And may it be opened at the preface which, as G. B. S. long ago maintained is apt to be the most important part of a book. William Lassiter, Major General, United States Army, Retired, has written this one which not only reviews the work and outlines its purpose but places anyone who has anything to do with ornamental plants in the mood to desire greater use, understanding and appreciation of them.

The book is divided into two parts: the first by Van Rensselaer is devoted to a consideration of the species, alphabetically arranged, known in cultivation; the second, by McMinn is a

detailed taxonomic account of the entire genus. The former is followed by an evidently carefully considered exposition of the propagation and cultivation of these shrubs prepared by A. J. Stewart, Horticulturist of the Santa Barbara Botanical Garden, and the latter by a chapter of twenty-odd pages, entitled "Distributive History and Fossil Record of *Ceanothus*," by Herbert L. Mason. Even those primarily interested in the living plants will read Dr. Mason's lucid account of the probable evolution of the group and its species with interest because he gives a glimpse of the relationship of old floras with those of today, and by his thoughtfully interpreted observations throws light on the probable development of a number of the forms treated with doubt as distinct entities.

McMinn precedes his key to the fifty-five species and about half as many varieties (and the descriptive text) by a "General Discussion"; incidentally this includes the formal description of the genus. The discussion itself comprises about ten pages not counting some twenty more occupied by distributional maps, probable relationship charts, natural hybrid charts, chromosome "pictures" and a list of the specimens from which they were drawn (this commendable). There is also a plate depicting well the two sections into which the genus is readily divisible. The seven distributional maps are clear and conveniently show on each one several species and their variants. With the aid of these various charts the author explains, apparently with considerable confidence, his taxonomic conclusions and his reasons for arriving at them. The reviewer has no knowledge of *Ceanothus* whatsoever but anyone with general experience in classification will, it seems to him, have the impression from the author's discussion, and that of Mason, that the taxonomy even with present knowledge could have been on a sounder basis. Perhaps a number of the entities recognized as species of equal merit could have been differently evaluated considering the fact that a simple geographically limited, variable, often solitary character has frequently been accepted as "specific." However the author believes that species can be proved by experiment. Granting that this is so, it is my impression that experimental taxonomic methods, so to speak, have more often proved than disproved the fundamental soundness of specific lines and apparent relationships as they were previously suggested by the more capable botanists of yesterday and entirely from morphological and geographical data. McMinn's interest . . . I almost wrote enthusiasm . . . in "experimental methods" has, I cannot help but sense, inhibited his own expression of what he believes is actually happening (or has happened) in the history of these fascinating and plastic plants. This unfortunately (from the standpoint of practical simplicity) has resulted in his not anticipating facts (as he hints himself, for example page 191 and elsewhere) that the methods he advertises will probably at least in many cases be able to prove. In any

case his keys and remarks are clear, and others can follow his reasoning. His obvious knowledge of the group is little short of amazing even with due appreciation of his indebtedness to the work of previous students, notably Jepson and the latter's pupil, J. T. Howell. To the former he pays the compliment of using his method of citation of references and specimens. In this connection one may remark the excellent, distinctive typography. There is a lovely color plate of *C. purpureus* and innumerable photographs uniformly of exceptional beauty and value as well as a number of good drawings.

Finally let us turn to the descriptive account of the seventy-odd species and a number of varieties distinguished by Van Rensselaer in cultivation. He describes them in the idiom of the horticulturist, usually adding some remarks as to distribution, where cultivated and the growing conditions required. It would have been desirable if, besides the index to the entire book, page references after the descriptions had been given in each part to the other part. In this case some discrepancies in names used for the same plants would have been discovered. For example on page 14 we find the name *C. austromontanus* instead of *C. foliosus* in which it is included by McMinn, page 223. On page 30 the name *C. exaltatus* is given as "a new horticultural designation" while McMinn ignores it except as a variety of *C. gloriosus, et cetera*. Some of these slips, or they may be differences in opinion between the two authors, are going to confuse if not anger bibliographers, not to mention certain professional botanists who, of course, are almost God-like in the perfection of their own work!

Above the rare mistakes, here is a living work, jointly conceived, jointly prepared, inspiring to everyone whether amateur or professional in the garden, herbarium or laboratory, and creating a closer bond of understanding, of friendship between all who have to do with plants, as Major General Lassiter has happily phrased it. The contributors who made the book possible are to be congratulated and thanked for supporting so worthwhile a project that is destined to become a classic of its kind. Humanity needs many similar books and from them will be born the realization that adequately financed herbaria and gardens must always be the basis for them.—J. FRANCIS MACBRIDE, Field Museum of Natural History, Chicago.

Practical Plant Anatomy. By ADRIANCE S. FOSTER. Pp. 1-155. D. Van Nostrand Company, Inc., New York. 1942. \$2.50.

This compact book of fourteen chapters or "Exercises" is spirally bound in flexible fabrikoid. Each exercise consists of a brief but accurate résumé of both early and recent papers dealing with the subject of the chapter, some discussion of the subject matter and different points of view thereon, and suggestions for study of selected materials and drawings to be made by the student. A short but well-chosen bibliography completes each